

ABSTRACT

A process for the transalkylation of polyalkylated aromatic compounds over a high porosity zeolite-Y molecular sieve having a surface area of no more than 500 m²/g.. A feedstock comprising a polyalkylated aromatic component, including polyalkylbenzenes in which the predominant alkyl substituents contain from 2 to 4 carbon atoms, is supplied to a transalkylation reaction zone containing the high porosity zeolite-Y catalyst. Benzene is also supplied to the transalkylation zone, and the reaction zone is operated under temperature and pressure conditions to maintain the polyalkylated aromatic component in the liquid phase and which are effective to cause disproportionation of the polyalkylated aromatic component to arrive a disproportionation product having a reduced polyalkylbenzene content and an enhanced monoalkylbenzene content. An alkylation reaction zone is provided which contains a molecular sieve aromatic alkylation catalyst having an average pore size which is less than the average pore size of the average pore size of the high porosity zeolite-Y. A feedstock comprising benzene in a C₂-C₄ alkylating agent is supplied to the alkylation reaction zone which is operated under conditions to produce alkylation of the benzene by the alkylating agent in the presence of the molecular sieve alkylation catalyst. The alkylation product from the alkylation reaction zone is supplied to an intermediate recovery zone for the separation and recovery of a monoalkylbenzene, *e.g.* ethylbenzene, from the alkylation product, together with the recovery of a polyalkylated aromatic component employing a dialkylbenzene, *e.g.* diethylbenzene. The polyalkylated aromatic component is employed in at least a portion of the feedstream supplied to the transalkylation reactor.